Cross Cutting Issues

Asthma is a complex chronic disease which must have a coordinated and multifaceted approach that is concerned with improving the outcomes in all persons with asthma. This chapter will address cross-cutting asthma issues.

They include:

- Asthma Disparities
- Data & Surveillance
- Policy/Advocacy

Asthma Disparities

The Washington State Asthma Plan focuses on asthma as a public health issue designed to address asthma as a pertinent health issue for all parts of society, regardless of socioeconomic needs or race/ethnicity. However, there are subgroups of the population in Washington State that experience disparities in asthma rates and access to treatment.

Reducing health disparities has been identified as a priority at national and local levels. In 1998, President Clinton established goals for eliminating health status disparities of racial and ethnic minorities by 2010 though the *Racial and Ethnic Health Disparities Initiative*. In 2000, the Centers for Disease Control and Prevention called for the elimination of the disproportionate burden of asthma in minority populations and those living in poverty.[1] At the local level, the Washington State Board of Health and the Department of Health have designated health disparities as a health priority for Washington State.[2,3]

The US Department of Health and Human *Services Healthy People 2010* set national health goals for increasing the quality and years of healthy life and eliminating health disparities. *Healthy People 2010* defines disparities as differences in disease prevalence, access to care or outcomes by gender, socioeconomic position, geographic location, disability status, and/or sexual orientation.[4]

Poverty and education are important determinants of health status and disparities in income and education among sub-groups of the population are reflected in health disparities. An increased understanding of the human genome, leads most scientists to conclude that race as not a valid biological construct. Rather, race and ethnic groups should be viewed as capturing the effects of complex social, cultural, economic and political factors on human health.[5] Studies on health disparities have pointed to a variety of risk factors that are believed to contribute to health disparities. These include:

- poverty
- behavior and lifestyle
- nutrition
- access to health-care services
- genetic predisposition
- education level
- employment
- acculturation
- environmental and occupational exposures
- racism
- gender discrimination.

Other contextual factors (e.g., different levels of insurance coverage and access to high-quality networks of preventive and primary care) play important roles in creating health status disparities.

Health Disparities

Describe the disproportionate burden of disease, disability and death among a particular population or group when compared to the proportion of the population.

-WA State Board of Health

1 US Department of Health and Human Services. (2000) *Action Against Asthma A Strategic Plan for the Department of Health and Human Services*. Pg.34

2 Washington State Board of Health.(2001). *Final Report State Board of Health Priority: Health Disparities*. Olympia, Washington. Pg:11

3 Washington State Department of Health.(2002). *Health of Washington State Executive Summary*. Olympia, Washington. http://www.doh.wa.gov/HWS/ExSum.shtm

4 U.S. Department of Health and Human Services. (2000). *Healthy People 2010: Understanding and Improving Health*. 2nd ed. Washington, DC: U.S. Government Printing Office.

5 Hayes, Maxine. Cover Letter 2004 *Supplemental to the 2002 Health of Washington State*. September 2004

Limitations in Data Collection for Race/Ethnicity Descriptions

Adequately assessing the needs of communities' health status can be challenging. Collecting valid surveillance data on low-income or transient communities is difficult since they may not be reachable for traditional surveys. Barriers may include:

- Some groups are not as accessible to surveys conducted by phone or mail.
- Surveys are not conducted in primary language of audience
- Cultural differences that influence how questions are interpreted or answered may skew results[6]

Data can also be limited by the way respondents are categorized. Race and ethnicity are separated out to capture Hispanic/Latinos who are considered by the Census to be an ethnicity classification and not a race category. Separation of race and ethnicity has caused confusion among Hispanic/Latino survey respondents who are not certain about how they should describe themselves. If there is an "Other" or "Mixed Race" category, many Hispanic/Latinos/Latinos select this category while others may place themselves into the white or American Indian categories.

Confusion over race classifications also occurs in the "Asian/Pacific Islanders" category. Asian Americans and Native Hawaiians/Pacific Islanders may be grouped together or separated into two groups and also may be linked with Native Americans or placed into the "Other Race" category. These data collection issues challenge statisticians when attempting to provide appropriate analysis of these populations. The difficulty of collecting the data or the fractioning of communities of color into small data sets often prevents disparate populations from being clearly articulated in the data utilized to identify health issues and set priorities.

Overall Racial and Ethnic Populations

In the United States the rates of hospital asthma admission for patients of color compared with white patients are 50% higher among adults and up to 150% higher in children. [7] Asthma-related deaths in the United States and Canada are greater in disadvantaged groups such as African American and Hispanic/Latino populations, as well as in those who are poorly educated, live in large cities, or are poor.[8]

Racial and ethnic populations represent 18% of Washington State's total population. This proportion is expected to increase to 25% by 2010.[9] In Washington State, low-income and minority communities have poorer health status than the overall population and have higher rates of a variety of diseases that are known to be associated with environmental triggers, including cancer and asthma. [16]

6 Boysun M, Dilley J. Wynkoop Simmons. K. (2003). *Describing Health Disparities*: an Epi Brown Bag. March 2003 presentation. Washington State Department of Health.

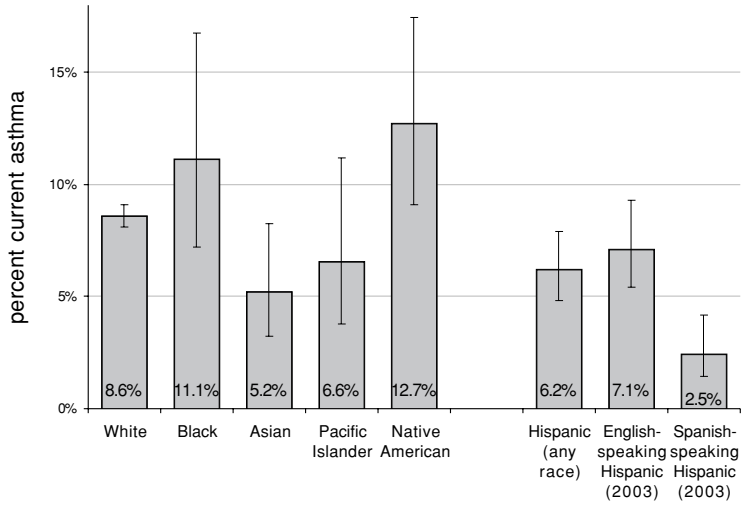
7 Global Initiative on Asthma, National Institutes of Health, National Heart, Lung and Blood Institute (2002). *Global Strategy for Asthma Management and Prevention*.

8 *Ibid*

9 Washington State Board of Health.(2001). *Final Report State Board of Health Priority: Health Disparities*. Olympia, Washington.

16 American Lung Association. *Lung Disease Data in Culturally Diverse Communities, Racial Disparity, Asthma and Asian Americans and Native Hawaiians/Pacific Islanders*. http://www.lungusa.org/site/pp.asp?c=dvLUK9O0E&b=312160

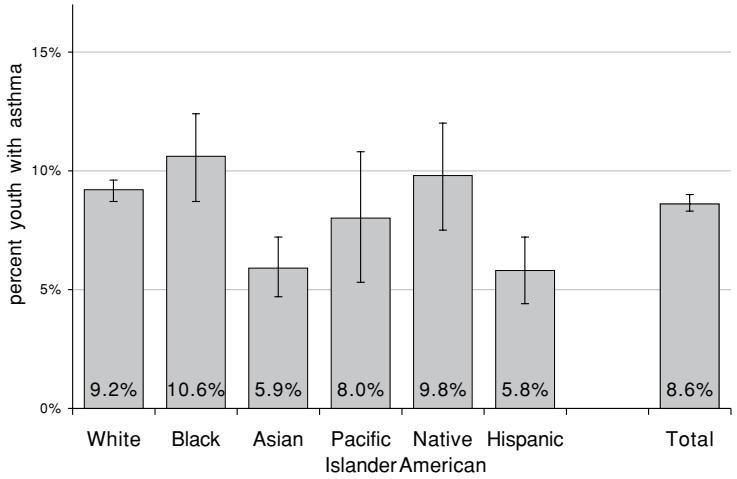
Figure 1: Prevalence of Asthma by Race/ethnicity, Among Washington Adults



Source: 2001-2003 combined Washington State Behavioral Risk Factor Surveillance System (BRFSS). Hispanic/Latino ethnicity collected separately from race. *The Burden of Asthma in Washington State Report.* DOH 2005.

Among school-aged youth, Asians and Hispanic/Latinos were less likely than non-Hispanic/Latinos whites to report having asthma. Differences between non-Hispanic/Latino whites and other racial/ethnic groups were not significant. The Health Youth Survey does not allow for distinction of English from Spanish-speaking Hispanic/Latinos.

Figure 2: Prevalence of Asthma by Race/ethnicity, Among Washington Youth



Source: Combined 2002 and 2004 Washington State Healthy Youth Survey (HYS), 6-8-10-12th grade-standardized. Race and Hispanic/Latino ethnicity collected as part of a single question. *The Burden of Asthma in Washington State Report.* DOH 2005.

Ten years of death certificate data were combined to create meaningful estimates of asthma death rates among race and ethnic groups in Washington State. Age-adjusted death rates for African Americans, Native Americans, and Asian/Pacific Islanders were all higher than for whites, while Hispanic/Latinos were similar to whites.[10]

Although asthma affects Americans of all ages, races, and ethnic groups; low-income and some minority populations experience substantially higher mortality rates, hospital admissions, and emergency department visits due to asthma. Several reports have indicated that observed racial/ethnic disparities are attenuated but do not disappear upon adjustment for socioeconomic factors.[11]

10 Dilley, J., Pizacani, B., Macdonald, S., & Bardin, J. (2005). *The Burden of Asthma in Washington State. Olympia,* WA: Washington State Department of Health. Pg. 47

11 Ibid. pg 45

Without focused attention on disparate populations, efforts to improve asthma outcomes that are directed to the "mainstream" population may fail to reach populations who need them the most and new disparities may be created.

African Americans

Several studies have found that many African Americans living in poverty have access to medical care but are less likely to receive high-quality continuity of their asthma care; asthma education; and inhaled corticosteroid (ICS) therapy.[12] The care of African Americans with asthma has consistently fallen short of many recommendations contained in national guidelines when compared to whites.[13] African Americans are reported to have more severe asthma and are more likely to be hospitalized or die due to their asthma.

In this same study, only about 35% of African Americans reported using inhaled corticosteroids daily (54% for whites) and 42% reported having been provided enough information on how to manage their asthma during an attack (54% for whites). Only 38% reported receiving adequate information about how to avoid asthma triggers (54% for whites) and only 28% had seen an asthma specialist (41% for whites). This study clearly demonstrated that African Americans are not receiving the same level of asthma treatment as their white counterparts.

In 2002, National Health Interview Survey documented that the current asthma prevalence among African Americans was 38% higher than among whites.[14] From 2001 to 2002, asthma prevalence increased 8.5% in African Americans, while it decreased 3.5% in whites. Death rates among African Americans were three times the whites death rates. In 2001, African American women had the highest asthma mortality rate. Hospitalization rates, reported on the National Hospital Discharge Survey, are three times higher for African Americans than for whites.

American Indian/Alaska Native

Nationally, American Indian/Alaska Native (AI/AN) adults have the highest asthma rates among any single-race group; 11.6% of AI/AN compared to the national average of 7.5%. In a recently released report from the CDC, 76% of AI/AN with asthma reported being on asthma medications (compared to an average of 70% nationwide). While AI/AN reported fewer emergency department visits, less loss of sleep and less limited physical activity, more AI/NA adults reported having asthma attacks. In Washington State, Native American children (6-12th grade) were the second highest race group to report asthma (9.7% compared to 9.0 for whites).

Asian/Pacific Islanders

There are limited data available on asthma for Asians or Native Hawaiians/Pacific Islanders. Until recently, national health surveys did not always collect data on these populations. Additionally, small sample sizes are not considered statistically accurate. This is further complicated by the way that Asians are described in the data sources; "Asian Americans" and "Native Hawaiians/Pacific Islanders" may be grouped with "Native Americans" into the category "Other Races."

In states with high Asian or Native Hawaiian populations, such as California and Hawaii, Asians were significantly less likely to have been diagnosed with asthma than any other racial/ethnic population except Hispanic/Latinos. A study conducted in the UK found that, although South Asians had the highest risk of asthma hospital admissions, they had lower frequency of asthma symptoms and were less likely to be clinically diagnosed with asthma than African Americans or whites.[15] This has also been seen in California where an estimated one in eight Asian children (11.7 %) and one in ten Asian adults (9.2 %) had been diagnosed with asthma at some point in their lives. The survey also found that only one in six Asian adults aged 18 and over (16 %) experienced daily or weekly symptoms, compared with 37 % of American Indians and 24 % of whites.[16]

12 George, M. (2005). *Complementary and Alternative Medicine (CAM) and Folk Care in Asthma: Assessment, Education and Integration*. CDC Teleconference Presentation. January 2005 (?)

13 Ortega AN., Gergen PJ., Paltiel AD., Bauchner H., et al. (2002). Impact of site of care, race, and Hispanic ethnicity on medication use for childhood asthma. *Pediatrics*. Jan;109(1):E1

14 Dilley, J., Pizacani, B., Macdonald, S., & Bardin, J. (2005). *The Burden of Asthma in Washington State*. Olympia, WA: Washington State Department of Health. Pg. 48

15 Netuveli G., Hurwitz B., Levy M., Fletcher M., et al. (2005). Ethnic Variations in UK Asthma Frequency, Morbidity, and Health-service Use: A Systematic Review and Meta-analysis. *The Lancet* - Vol. 365, Issue 9456, 22 January 2005, Pages 312-317

16 American Lung Association. *Lung Disease Data in Culturally Diverse Communities, Racial Disparity, Asthma and Asian Americans and Native Hawaiians/Pacific Islanders*. http://www.lungusa.org/site/pp.asp?c=dvLUK9O0E&b=312160

The same California study found that Native Hawaiians/Pacific Islanders tended to have higher asthma rates. Among Native Hawaiians and other Pacific Islanders, approximately one in five children (22 %) and one in five adults (20.8 %) had been diagnosed with asthma at some point in their lives. The 2001 Hawaii Health Survey also reported that Native Hawaiians had a lifetime asthma prevalence rate of 143.2 per 1,000; this was twice the rate of whites or any other population living in Hawaii.[17]

High hospital admission rates among Asian patients may be related to limited use of self-management plans.[18] This may also reflect less patient education and self-management training being offered to these patients.

Hispanic/Latino

Hispanic/Latinos are the fastest-growing minority group in Washington. The 2000 Census indicated that 7.5% of Washington's population is Hispanic/Latino, with that population size projected at greater than 500,000 by 2003. Eleven of Washington's 39 counties have Hispanic/Latino populations greater than 20 %[19]

Much of the information on Hispanic/Latino adults and asthma comes from a phone survey. Hispanic/Latinos who take health surveys in Spanish may be considered "less acculturated" to the mainstream population and exhibit different risk or health behaviors, including some healthier behaviors such as lower rates of cigarette smoking.[20] However, people who do not speak English and who are employed in agriculture may also have increased exposure to irritating chemicals. The migrant farm worker population is also unlikely to be captured in a telephone survey. Therefore, the low rate of asthma reported for this group is potentially an underestimate. Also, less acculturated Hispanic/Latinos are more likely to live in poverty and have less access to health care support for preventive care or clinical control of asthma or other conditions.[21]

However, a recent study of 4,121 Mexican American children who participated in the Third National Health and Nutrition Examination Survey (NHANES III) found that children of Mexican descent who are born in the US are nearly twice as likely to develop asthma as those born in Mexico.[22]

In Washington, keeping in mind the limited data reported, asthma prevalence among both Hispanic/Latino youth and adults is significantly lower overall than non-Hispanic/Latino whites. However, when adults were sorted by language (as a measure of acculturation) there was no difference in rates of asthma between English-speaking Hispanic/Latinos and non-Hispanic/Latinos. It has been reported that there is substantial variation in asthma prevalence between Hispanic/Latino sub-groups, with Puerto Ricans reporting the highest prevalence.[23] Washington's Hispanic/Latino population originates predominantly from Mexico.

Community clinics in the Yakima Valley area (Central Washington's agricultural community), have reported an increase in the number of children they are seeing with asthma. This has greatly impacted clinic services and resources.[24] In addition, a partnership of organizations including the University of Washington, Heritage University, the Yakima Valley Farm Workers Clinic and the Northwest Community Education Center/Radio KDNA are conducting a community-based participatory research project. *El Proyecto Bienestar*, which focuses on the identification and prioritization of occupational and environmental issues facing Hispanic/Latino agricultural workers and their families in the Yakima Valley. As part of this project, during the summer of 2004, a community services poll was conducted yielding 202 useable surveys. One question asked respondents to identify environmental health concerns. "Asthma in children" received the most responses of "definitely a concern," at a rate of 71.8%. This concern was followed by surface water pollution (66.7%), ground water pollution (63.2%), soil contamination (64.2%), and food illnesses (64.2%). In the next two years, *El Proyecto Bienestar* plans to analyze this 2004 survey along with a 2005 community survey and key informant

17 American Lung Association. *Lung Disease Data in Culturally Diverse Communities, Racial Disparity, Asthma and Asian Americans and Native Hawaiians/Pacific Islanders*. http://www.lungusa.org/site/pp.asp?c=dvLUK9O0E&b=312160

18 Partridge. MR. (2000). In What Way May Race, Ethnicity or Culture Influence Asthma Outcomes? *Thorax*.55:175-176

19 Washington State Office of Finance Management. *Census 2000 and 2003 Intercensal Estimate Updates*. Accessed May 2, 2005. http://www.ofm.wa.gov/news/release/2004/093004.htm

20 Perez-Stable EJ, Ramirez A, Villareal R, Talavera GA et al. (2001). Cigarette Smoking Behavior Among US Latino Men and Women from Different Countries of Origin. *Am J Public Health*. 91:1424-30.

21 Centers for Disease Control and Prevention, Office of Minority Health. *Hispanic/Latino or Latino Populations Data Overview*. Accessed on June 15, 2005. http://www.cdc.gov/omh/Populations/HL/hl.htm

22 Eldeirawi K, McConnell R, Freels S, Persky VW.(2005). Associations of Place of Birth with Asthma and Wheezing in Mexican American Children. *J Allergy Clin Immunol*. Jul;116(1): 42-8

23 Perez-Perdomo R, Perez-Cardona C, Disdier-Flores O, Cintron Y. (2003). Prevalence and Correlates of Asthma in the Puerto Rican Population: Behavioral Risk Factor Surveillance System, 2000. *J Asthma* 40:465-74.

24 Personal communications with Vickie Ybarra and John Thayer, Yakima Valley Farm Workers Clinic. 2005

interviews in order to best identify and prioritize environmental and occupational issues of concern in the Yakima Valley."[25]

If the rate of childhood asthma among Hispanic/Latinos in Washington State is increasing, the increase could be masked by the fact that the primary data sources for prevalence by race/ethnicity are currently from adults (BRFSS) and youth 6th grade and older (Healthy Youth Survey). The proportion of Hispanics under the age of 18 in the United States (33.0%) is significantly greater than among non-Hispanics (22.6%). Given the limited asthma surveillance available among children, an increase in childhood asthma among the Latino/Hispanic population of Washington might not be detected immediately.

Special effort must be taken to collect accurate asthma data from Hispanic/Latinos within Washington State. Many Hispanic/Latinos speak only Spanish, do not maintain regular phone service and are not comfortable in a phone survey. BRFSS may be an inadequate tool for collecting data among this population.

Socioeconomics

The causes of asthma and access to treatment/clinical outcomes can be linked to socioeconomic factors.[26] Many studies on racial/ethnic disparities in asthma have made an attempt to examine factors related to race/ethnicity that might account for differences in asthma rates. A study utilizing the National Health and Nutrition Examination Study, found that low-income was the strongest independent predictor of asthma, and that the African American-white occurrence difference was largely explained by income disparity.[27] In another study that examined urban residences found that, after controlling for various factors, all urban children, regardless of race or income, were at increased risk for asthma.[28] Research has shown a pattern of increased use of emergency rooms, and less use of primary care provider for asthma attacks with primary health care practitioners in urban, low-income families.[29]

These and other studies have pointed out that racial disparities in asthma rates, occurrence and deaths are possibility related to the following factors:

- Increased exposure to air pollution (from inner-city residence)
- Lack of access to health care
- Higher smoking rates and exposure to secondhand smoke (both prenatally and postnatally)
- Racial or ethnic differences in health beliefs regarding preventive medications
- Overcrowding that may result in greater exposure to irritants such as cockroach allergens[30]

Racial/ethnic disparities do not disappear upon adjustment for socioeconomic factors. In general, the difficulties inherent in definitions of race and ethnicity are thought to be responsible. Authors have also mentioned that adjusting for income or education disparities may not be sufficient to explain existing social and environmental inequalities. [31]

Asthma as a Disability

Asthma, if severe enough, can be a disability that affects a person's ability to work/attend school. Missed days of work for the person with asthma or for a parent caring for a child with severe asthma may also have a financial impact. This can be amplified if the family has limited/no health care or has multiple children with asthma.

Asthma has also been found to be twice as high among people who already have a disability than among those who are free from disability.[32] A study conducted in the UK found that families with more than one disabled child are: more likely to be single parents; less likely to be employed; more likely to be in semi-skilled or unskilled manual jobs; more likely to be

25 Cardenas N, Guzman M, Valencia M, Keifer. (2004). *An Initial Investigation of Environmental and Occupational Health Concerns Among Yakima Valley Residents by ConneX Students*. Presented at the Western Migrant Stream Forum in San Diego, CA in 2005 and the Pacific Northwest Agricultural Safety and Health Center conference on Sustainable Agriculture in Hood River Oregon, 2004

26 Global Initiative on Asthma. National Institutes of Health, National Heart, Lung and Blood Institute (2002). *Global Strategy for Asthma Management and Prevention*. Pg. 20

27 Dilley, J., Pizacani, B., Macdonald, S., & Bardin, J. (2005). *The Burden of Asthma in Washington State*. Olympia, WA: Washington State Department of Health. Pg.109

28 Ibid. pg: 109

29 Shapiro GG. Stout JW, (2002). Childhood Asthma in the United States: Urban Issues. *Pediatr Pulmonol*. 2002 Jan;33(1):47-55

30 Dilley, J., Pizacani, B., Macdonald, S., & Bardin, J. (2005). *The Burden of Asthma in Washington State*. Olympia, WA: Washington State Department of Health. Pg. 109

31 Ibid. pg: 109

32 Canadian Community Health Survey. (2004). *CCSD's Disability Information Sheet: Number 14, 2004*. http://www.ccsd.ca/drip/research/drip14/

dependent on income support; and less likely to own their own home.[33] Another study found that single mothers with a child disabled by asthma lose an average of 255 desired annual working hours a year.

Sexual Orientation

In adult telephone surveys, Washington residents are asked about their sexual orientation. Gay men and lesbian women were combined for comparison to heterosexual (straight) people, both including and excluding bisexuals. The rate of asthma was significantly greater among people who self-identified as gay or lesbian. This may be the result of higher rates of cigarette smoking among this population.[34] Another consideration could be lack of access to medical care. Since medical insurance coverage may not be available to a same-sex domestic partner, lack of medical insurance may be a greater problem than for the general population, as a whole.

Environmental Factors

Environmental exposures play an important role in the development and management of asthma. The main factors responsible for triggering asthma attacks and persistent symptoms are exposure to allergens, irritants and viral respiratory infections (also called triggers). Common biological agents are allergens, or substances that can cause an allergic reaction such as animal dander, dust mites, cockroaches, and molds. Common respiratory irritants include diesel exhaust, fumes from household and industrial cleaning products, solvents, new building and finishing materials, secondhand smoke and air pollution, including ozone and fine particles.

Increased exposures to environmental hazards can increase a person's risk of getting asthma or of making asthma worse. Environmental exposures are considered to be disproportional when a community has greater numbers of industrial and/or waste facilities. Concentrations of toxic and other triggering substances from each facility, coupled with the increased number of facilities, raise the communities' overall exposure to environmental hazards.[35] The Environmental Protection Agency (EPA) has been a supporter of environmental justice, a movement that addresses such disparities. Factors such as poor nutrition and stress can make people within a community more susceptible to adverse health effects of environmental hazards and less able to manage them.[36]

In several of South Seattle's neighborhoods, industrial facilities are located adjacent to residential housing and South Seattle communities experience higher death rates and decreased life expectancies than the Seattle areas.[16]

Poverty and lack of access to health care increases the risk of asthma. Children in central and southeast Seattle have the highest incidence of asthma in King County, with hospitalization rates that far exceed any other area in the county. In King County, there are about 9,500 children with asthma living in households with incomes less than 200% of the federal poverty level. According to data from the Seattle-King County Healthy Homes Study, it is estimated that close to 40% (3,800) of these homes have at least one smoker.[17]

Environmental justice issues are not only found in urban areas. Rural areas within Washington State also face issues related to chemical utilized in fertilization, pesticides, or smoke from agricultural burning.

Secondhand Smoke

Although asthma can affect any one at any age, there are factors that put people at risk of getting or worsening their asthma. These factors include genetics and level of exposure t such as personal behaviors as smoking. Tobacco smoke is a well-documented potent trigger for asthma. *The Burden of Asthma in Washington State* report found that, even though there is conflicting evidence as to whether active smoking is a risk factor for asthma, researchers agree that smokers with asthma have more severe symptoms than people with asthma who do not smoke.

Environmental Justice

The fair treatment of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations and policies.

-EPA

16 American Lung Association. *Lung Disease Data in Culturally Diverse Communities, Racial Disparity, Asthma and Asian Americans and Native Hawaiians/Pacific Islanders*. http://www.lungusa.org/site/pp.asp?c=dvLUK9O0E&b=312160

17 Ibid.

33 Joseph Rowntree Foundation. (1998). *The Number and Characteristics of Families with More than One Disabled Child*. 1998 - Ref 218 http://www.jrf.org.uk/knowledge/findings/socialcare/SCR218.asp

34 Dilley, J., Pizacani, B., Macdonald, S., & Bardin, J. (2005). *The Burden of Asthma in Washington State.* Olympia, WA: Washington State Department of Health. Pg.51

36 Institute of Medicine. C*learing the Air: Asthma and Indoor Air Exposures.* Washington, DC: National Academy Press, 2000. pg 6

Complementary and Alternative Medicine

A group of diverse medical and health care systems, practices, and products that are not presently considered to be part of conventional medicine

In Washington, current smokers (people who smoke every day or just on some days, combined) had the highest prevalence of asthma, former smokers somewhat less, and never-smokers had the lowest prevalence of current asthma.[37] Among Washington middle-school-aged youth, current smoking is strongly associated with asthma, but the association is not significant for high school-aged youth.[38]

Exposure to secondhand smoke exacerbates asthma in a number of ways. Studies have shown that children with asthma exposed to secondhand smoke have more frequent need for emergency services, a greater need for medications, and a more difficult time recovering from an acute asthmatic episode.[39]

Tobacco use among people with low-incomes or members of minority racial/ethnic populations is significantly higher than among the general population. In Washington State in 2005, smoking rates were as follows:

The 2005 State Smoking Rate	19.8%
African Americans	28%
Asians and Pacific Islanders	18%
Native Americans	41%
Hispanic/Latino	16%

Complementary and Alternative Medicines

The World Health Organization estimates that four billion people use complementary and alternative medicine (CAM) and that as much of 80% of the world's heath care is CAM-based.[40] The utilization of CAM among patients with asthma is very popular ranging from 41% to 59%.[41]

CAM is being utilized in cultures all over the world, and many of the asthma medications currently in use originated from herbal remedies found in alternative medicine practices. Folk medicine or traditional medicines can include: herb-based remedies (teas), over-the-counter drugs, breathing techniques, acupuncture, chiropractic care, and prayer, and among other things.

In African American communities, home remedies have served as the foundation of health care and have served as cost-effective alternatives to "Western" medicine.[42] Some cultures may turn to CAM due to disenfranchisement from medical services due to racism. Others may utilize CAM to increase effectiveness of "Western" medical care.

Cultural differences can also play a role in how communities utilize Western medicine. One study recently conducted among the Navajos found that dependency on Western medications was not a desired cultural norm. Therefore, persons with asthma were constantly being "weaned" from their asthma medications including their long-term controllers. The preference was to rely on the hospital emergency room to provide one dose medications when symptoms arose.[43]

To provide optimal asthma care, it is important to understand what types of CAM are being utilized by different communities and why.

Policy Issues

The *Standards of Public Health in Washington State* states that, "health policy decisions (should be) guided by health assessment information, with involvement of representative community members."[44] It is critical that representatives from communities with asthma health disparities be involved in asthma planning and implementation.

In 1998, the Washington Asthma Initiative identified health disparities issues and recommended that communication barriers due to language and cultural differences be minimized through translation of education materials into a variety of languages and integrating cultural awareness into continuing education curricula for health care providers.[45]

37 Dilley, J., Pizacani, B., Macdonald, S., & Bardin, J. (2005). *The Burden of Asthma in Washington State*. Olympia, WA: Washington State Department of Health. Pg. Pg 56.

38 Ibid. Pg: 57

39 Ibid. Pg: 92

40 George, M. (2005). *Complementary and Alternative Medicine (CAM) and Folk Care in Asthma: Assessment, Education and Integration*. CDC Teleconference.

41 Brutsche MH. (2002). Complementary and Alternative Medicine in Asthma – Safety, Effectiveness and Costs. *Swiss Med Wkly*.132: 329–331.

42 George, M. (2005). *Complementary and Alternative Medicine (CAM) and Folk Care in Asthma: Assessment, Education and Integration.* CDC Teleconference.

43 Wright AL. *Perceptions of Asthma among Native Americans and Alaska Natives*. http://www.resp-sci.arizona.edu/research/asthma/native-american-asthma.htm

44 Washington State Department of Health. *Washington State Standard for Public Health*. www.doh.wa.gov/standards page6

45 American Lung Association of Washington. (1998). *Washington State Asthma Project*. Pg: 63

Asthma is a serious health risk for those who currently have asthma and for those potentially exposed to asthma-causing agents. Illness, hospitalization, and death related to asthma are disproportionately high for minority communities. This makes asthma not only a serious health issue, but also an issue of social justice.[46]

Health Disparities

Goal 1: Reduce health disparities related to asthma in Washington State

Objective HD.1

Through 2010, minimize communication barriers due to language and cultural differences though translation of education materials into a variety of languages and culturally appropriate outreach strategies

Strategies

- Integrate cultural awareness into continuing education curricula for health care providers
- Increase education on complementary and alternative medicines and cultural diversity into the Asthma Educator Institute
- Explore funding resources to provide mono-lingual or bi-lingual services for people with asthma

Objective HD.2

Through 2010, increase the Washington Asthma Initiative's knowledge of the needs of health disparate communities

Strategies

- Conduct a needs assessment for underserved and disparate communities in Washington State
- Utilize tribal and other diverse community experiences to make quality improvement recommendations to similar other groups working on improving asthma care
- Expand WAI membership to include representatives of disparate communities through active recruitment
- Coordinate with local and statewide partners who are working with disparate communities on asthma/asthma-related issues
- Explore environmental justice issues for families working in or near the poverty level
- Support polices that help address asthma among disparate populations

Objective HD.3

Through 2010, increase data sources that capture race/ethnic data in Washington State

Strategies

- Recommend that Comprehensive Hospital Abstract Reporting System (CHARS) capture race/ethnicity data
- Explore methods to increase data sources for younger children
- Explore over-sampling communities of color in Behavior Risk Factor Surveillance Survey (BRFSS) and other public health surveys.

46 Children's Environmental Health Network. (2004). *Asthma Fact Sheet*. August 8. http://www.cehn.org/cehn/asthmafactsheet.html.

Data & Surveillance

Surveillance is the ongoing systematic collection, analysis, interpretation and timely dissemination of health data. The purpose of a surveillance system is to monitor trends in disease and its management in order to prevent or better control it within the population. Asthma surveillance is a critical component of public health efforts to address asthma in Washington State.

- Asthma is a high-priority. It is a frequent cause of emergency department (ED) visits and hospitalizations making it a very costly disease.
- Asthma surveillance is useful in targeting and evaluating efforts to improve asthma.
- Although costly, surveillance is needed at the national, state, and local levels. Comparison of local disease rate estimates with other local, state and national estimates is essential to providing measurements of progress in programs aimed at reducing the incidence of asthma attacks.
- Even limited data can be used to guide asthma control improvements.[47]

Washington State is fortunate to have an established public health surveillance system, as well as strong epidemiologic capacity within chronic disease prevention programs at state agencies, universities, and health care organizations. 'Data and surveillance' activities for the Washington State Asthma Plan will build upon this capacity for continued or enhanced asthma surveillance, assessment and evaluation in support of the state plan, as well as public education about the burden of asthma.

Current Activities

The Washington Asthma Initiative has a standing committee on data and surveillance whose formal charge is to: *Improve our understanding and information on asthma and its impact on children and adults living in Washington State and to provide recommendations regarding collection of asthma data in Washington*.

The committee is comprised of stakeholders from all over the state who have come together to review data sources and to assist state staff in the development of *The Burden of Asthma in Washington State* report that was finalized in June 2005. For more detailed information on asthma data and surveillance, refer to *The Burden of Asthma in Washington State* report available from the Washington State Department of Health.

47 Center for Disease Control and Prevention. *National Asthma Training Curriculum*. CD-ROM 2005

Data and Surveillance

Goal 1: Analyze public health surveillance data and describe asthma prevalence and impact within the Washington State population

Objective DS 1.1

Through 2010, conduct descriptive epidemiologic analyses to characterize the distribution of asthma prevalence, morbidity, and mortality in Washington State

Strategies

- Use the Behavioral Risk Factor Surveillance System (BRFSS) and the Healthy Youth Survey (HYS) to describe prevalence of asthma
- Use hospitalization data from the Comprehensive Hospital Abstract Reporting System (CHARS) to describe hospitalization rates for asthma
- Use the 2003 National Survey of Children's Health to further describe the burden of asthma among children in Washington State

- Use standard case definitions for asthma-related variables
- Compare Washington State data to national data sources to identify any deviations in Washington from secular trends

Goal 2: Support planning and evaluation of goals and objectives within the Washington State Asthma Plan

Objective DS 2.1

Through 2010, develop a data collection plan that reflects the priorities within the State Asthma Plan and provides data at timely intervals for objective program development or objective evaluation

Strategies

- Identify supplemental asthma questions to be proposed for the Washington BRFSS each year for the period of the State Plan
- Identify supplemental asthma questions to be proposed for the biennial Washington HYS during the period of the State Plan
- Partner with other chronic disease program assessment teams who plan to collect data so that they will include asthma-related measures within organizational and environmental assessments, including surveys of worksite, school, and health care practices and policies
- Partner with organizations that already collect data relevant to asthma to conduct additional analyses or obtain those data in a format that will be useful to the State Asthma Plan stakeholders, including the Department of Labor and Industries Worker Compensation claims data, the Office of the Superintendent of Public Instruction School Nurse Corps data, Medicaid utilization data collected by the Department of Social and Health Services, Washington State University Tools for Schools assessment data, and Department of Ecology air monitoring data
- As new opportunities are identified, maintain flexibility to take advantage of additional data sources (although implications should be considered if resources for maintaining existing data collection/analysis would be diminished)

Objective DS 2.2

Through 2010, identify existing resources, opportunities and models that may fill data gaps identified by data and surveillance stakeholders in the State Plan process

Strategies

- Explore possibilities for models to collect Emergency Room utilization data, including potential for asthma reporting from the new emergency room Bioterrorism Reporting System implemented through local health departments, hospitals, and the Department of Health
- Explore existing models and emerging technologies for describing health care quality for people with asthma through shared medical and pharmaceutical utilization data ('data warehousing') and clinical service delivery tracking ('collaboratives')
- Maintain participation in national data-related groups, monitoring of published literature, and attendance at national conferences to identify emerging opportunities or models for data collection, management, or analysis

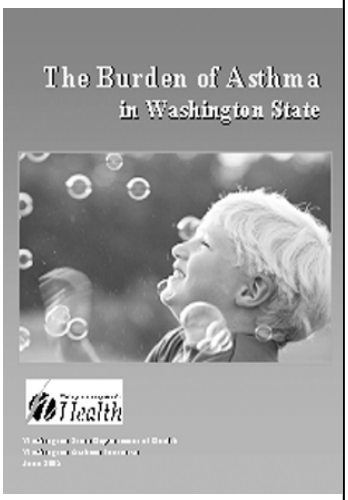
Goal 3: Share data with stakeholders on a routine basis, in easily accessible and understandable formats, to support communication about the importance of addressing asthma as a priority in public health

Objective DS 3.1

Through 2010, disseminate (up to 4 times per year) new data findings through short reports in a newsletter

Strategies

- Summarize findings from surveillance systems or targeted assessments as they become available
- Focus topically using the framework of the Washington State Asthma plan (e.g. schools, community, health care) for presentation of assessment or evaluation findings
- Assure that reports are available electronically and catalogued on a publicly available website
- Develop data exchange mechanisms between private and public stakeholders on collected asthma data



Objective DS 3.2

Through 2010, disseminate an updated "Washington State Asthma Burden Report"

Strategies

- Summarize findings from surveillance systems or assessments collected during the time period
- Discuss efforts of the Washington State Asthma Plan, and if possible describe how or if any outcomes might be attributed to the activities of that plan

Objective DS 3.3

Through 2010, continue to meet with asthma stakeholders to identify key questions and priorities to include when planning data collection and analyses

Strategies

- Continue to support the 'data and surveillance' committee as part of the Washington Asthma Initiative
- Provide presentations for or participate in state and regional meetings of asthma stakeholder groups
- Plan for inclusive stakeholder feedback in development and review of major reports or publications that describe asthma in Washington

Policy/Advocacy

Reducing the burden of many chronic diseases may be aided by policy or legislative changes. Behaviors have been changed and lives have been saved as a result of such action. Well-known examples include:

- Inhaler laws allowing students to carry medications at school,
- Leaf burning laws,
- Environmental tobacco smoke laws, and
- Emissions laws for cars, bus retrofitting and coal-burning industries.[48]

48 Center for Disease Control and Prevention. *National Asthma Training Curriculum*. CD-ROM 2005

Not all policies require legislative change. Some of the most important policies affecting health are developed at the local level and in private sector organizations. For example, a community youth program's policy can require utilization of smoke-free venues for all sponsored youth field trips or a business can install ventilation and establish a regular maintenance schedule to reduce airborne allergens.

In 2001, a RAND Health expert panel identified six policy goals in addressing asthma. They are:

1. Improve access to and quality of asthma health care services
2. Improve asthma awareness among affected individuals and the general public
3. Ensure asthma-friendly schools
4. Promote asthma-safe home environments
5. Encourage innovative asthma prevention and management
6. Reduce socioeconomic disparities in child asthma outcomes[49]

The National Conference of State Legislatures (NCSL), a bipartisan national forum for state lawmakers, concludes that government agencies' public health authority can be used to reduce asthma impacts. Government agencies may regulate environmental factors that contribute to triggering asthma attacks and may adopt environmental laws to combat conditions that lead to asthma and other respiratory health issues. States are better positioned to adopt prevention strategies to meet local needs and can experiment with solutions to complex health problems more easily than the federal government.[50]

NCSL reports that since 2000, there have been 220 asthma-related bills introduced in state and federal legislatures, of which 79 have been enacted. These bills range from permitting children to bring asthma rescue medicines to school to establishing smoking bans in public places.

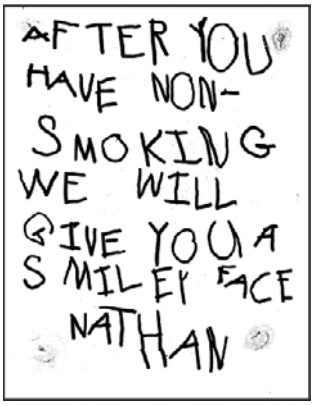
The number of bills introduced shows the heightened level of interest in asthma by state legislators. By way of comparison to other environmental health concerns, 277 bills related to indoor air quality, 102 bills related to mercury, 213 related to lead poisoning, and 102 related to asbestos were introduced in the same time period. Children's environmental health was addressed in 56 bills.

In 2004, Congress passed the *Asthmatic Schoolchildren's Treatment and Health Management Act of 2004*, which gives funding preference to states that protect students' rights to carry and self-administer lifesaving asthma and/or anaphylaxis medication

In 2005, the Washington Asthma Initiative drafted a comprehensive bill for asthma called the "*Attack Asthma Bill", an act relating to the prevention, diagnosis, and treatment of asthma.* This bill addressed building codes, insurance coverage, school children's access to asthma and anaphylaxis rescue medications, and data surveillance. Although many provisions of the original bill were not included in the final version, the enacted law requires school districts to adopt asthma policies and the state government health purchasing policy to be coordinated to assure that best practices in asthma treatment and prevention are being followed. The new law states "…all elementary and secondary schools must authorize any student to self-administer medication to treat his or her asthma or anaphylaxis where: (1) a health care practitioner has prescribed the medication and formulated a written treatment plan; (2) the student has demonstrated the skill level necessary to use the medication; and (3) the student's parents have completed any written documentation required by the school. The authorization must be renewed each school year."

49 RAND Health. (2001). *Improving Childhood Asthma Outcomes in the United States: A Blue Print for Policy Action*. Pg: xvii

50 The National Conference of State Legislatures. http://www.ncsl.org/programs/environ/envhealth/asthma2.htm 2002.



7-year old Nathan, a child with asthma writes to a restaurant owner.

(Reprinted with permission)

Plan Implementation

Policy interventions that will help implement the goals of the Asthma Plan will require existing and future partners to coordinate efforts to identify promising opportunities at all levels of government and within the private sector to improve asthma care. An initial policy intervention plan will be adopted by the Washington Asthma Initiative and updated annually. This plan will be based on the goals and strategies discussed below and will identify specific actions to be taken in the upcoming planning period. In each case desirable policy outcomes will be stated, relevant policy decision-makers targeted and tactics described. The policy intervention plan will address asthma related issues in at least the following general areas: environmental, tobacco smoke, schools, health care and the workplace.

Environmental Policies

Establishing a clear link between a particular instance of an environmental exposure and the manifestation or complication of disease is difficult due to the fact that there may be many confounding variables interacting to produce health outcomes.[51] This makes identification of specific asthma related environmental issues difficult and, therefore, policy solutions less compelling than where a clear threat to health is isolated.

In Washington State environmental policies have been effective in improving the overall quality of air, as demonstrated in the chart below. In Washington State, air quality programs are housed at The Department of Ecology, the Department of Health and through seven regional Air Quality Agencies.

In September 2003, the governors of the three West Coast states committed to a regional greenhouse gas reduction initiative. As an initial step, the governors' staffs were directed to develop joint policy recommendations on five reduction strategies that will benefit from regional cooperation and action: hybrid vehicle procurement, reduced ports and highway diesel emissions, renewable energy, energy efficiency, and measurement and reporting.[52]

In 2004, Governor Gary Locke directed all state government agencies to purchase only low emission vehicles for state travel. The executive order also directed all diesel-powered public transportation to convert to 2% biodiesel in an extended effort to reduce vehicle emission and diesel exhaust. Washington now grants tax deferrals and exemptions for biodiesel fuel production and sales.

In July 2005, all new and remodeled buildings are required to use green building alternatives. Washington State schools may use the Washington Sustainable Schools Protocol which includes incentives for schools to build high performance schools through green building practices. Also the state of Washington will begin implementing California vehicle emissions standards and require landlords to notify tenants of possible health effects of mold in residential units.

Secondhand Smoke

In November 2005, Washington voters passed an initiative vote which prohibited smoking in all public places and within 25 feet from entrances, exits, opening windows and ventilation intakes, including restaurants, bars, hotels, retail tobacco stores, sports arenas, skating rinks, bowling alleys, casinos, gymnasiums and health spas.

51 Washington State Board of Health.(2001). *Final Report State Board of Health Priority: Health Disparities*. Olympia, Washington.

52 Governor Gary Locke. *Combating Global Warming.* Accessed on March 4, 2004: http://www.digitalarchives.wa.gov/governorlocke/globalwarming/globalwarming2.htm

In addition to the Clean Indoor Air Act there are four other laws and an executive order prohibiting smoking in Washington State. Enforcement agencies vary for each of the laws.

Venues	Enforcement Agencies
Office work environments	Labor and Industries
Child care, foster, residential and group homes	DSHS
Restaurants	Local Health Department
All other establishments in the Clean Indoor Air Act	Local Fire Department
State Ferries	Department of Transportation

Many of the establishments listed in the Clean Indoor Air Act are regulated by the local fire departments. Smoking enforcement can vary depending on the availability of fire fighters' time.

Health care

Strategies to tackle asthma must address an array of issues. Leadership is needed at the local, state and national levels. Several of the issues, such as access to medical care and health payers coverage of chronic disease education and management, faced by people with asthma are rooting in the health care system as a whole. Below are some policy issues that are critical to addressing asthma in Washington State.

- People with asthma should have access to care by health care practitioners and specialists with appropriate expertise throughout Washington State - rural and urban, regardless of insurance status, racial/ethnic background or place of residence.
- The use of evidence-based asthma management national and state guidelines throughout health care organizations and practices will be the standard of care.
- Policies will support utilization of the planned care model for systems change and promote use of integrated comprehensive electronic medical records and registries that are designed to track patient clinical status and outcomes.
- A system that rewards health care practitioners and health care delivery systems for providing high quality care that follows national and state guidelines needs to be established.

Schools

The provisions of the recently passed *Attack Asthma Bill* need to be implemented by all school districts. Local policies that require an asthma action plan and medical/treatment orders for every student with asthma should be in place and enforced. This will require a coordinated effort between the health care provider, the parent/guardian and the schools. Currently, policies that coordinate emergency treatment plans for persons with asthma are inconsistent throughout Washington's schools system.

Work-related Asthma

In Washington State, the Department of Labor and Industries (L&I) is responsible for establishing and enforcing workplace safety and health rules through the Washington Industrial Safety and Health Act (WISHA). While past occupational health research and surveillance activities have helped to identify hundreds of substances currently known to cause occupational asthma, very few of these substances have enforceable workplace exposure limits. This can likely be attributed to a number of factors, including very limited scientific evidence regarding exposure-response relationships; current controversy concerning the existence of thresholds or safe levels of exposure at which sensitizing agents do not induce asthma; as well as technical limitations in the measurement of the very low exposure levels in which these sensitizing agents may likely initiate asthma.[53]

53 Salameh PR, Baldi I, Brochard P, Raherison C, et al. (2003). Respiratory Symptoms in Children and Exposure to Pesticides. *European Respiratory Journal*, 22:507-512.

Policy and Advocacy

Goal 1: Advocate and support polices that improve the quality of life for persons with asthma in Washington State

Objective PA.1

Through 2010, support smoke-free policies in Washington State

Strategies

- Promote expansion of Washington Clean Indoor Act to include restaurants, bowling alleys, skating rinks and other indoor places
- Team with other state and local partners to provide education and advocate for smoke-free policy changes
- Identify community organizations (e.g., youth camps, youth sports, faith-based) that do not have or do not utilize smoke-free venues, especially if children are involved
- Support improved air quality monitoring and data management systems

Objective PA.2

Through 2010, promote requirements for construction and maintenance of public buildings (including school buildings and state and local offices) that promote clean indoor air and prevent "sick buildings"

Strategies

- Support local, agency policies that promote clean indoor air in public buildings (e.g., reduced idling in front of ventilation system intake)
- Support legislation requiring standards for building construction, maintenance procedures, and heating and ventilation systems, to minimize the presence of common asthma triggers in public and private buildings
- Support policies promoting clean air by decreasing motor vehicle emissions

Objective PA.3

Through 2010, support policies that promote clean outdoor air in Washington State

Strategies

- Support policies that include clean diesel technology, low emission vehicles, zero emission vehicles and use of natural gas, electric, and hybrid vehicles, including public vehicle fleets
- Promote use of transportation policies, regulations, and funding that maximize air quality improvements and the impact on health, including best practices for reduction or mitigation of diesel and particulates, such as using clean diesel technology for construction vehicles and other vehicles involved in transportation projects
- Assess current policies and laws around air quality regulations and identify needed policy

Objective PA.4

Through 2010, increase the number of school-based asthma/asthma-related policies

Strategies

- Support statewide implementation of school-related provisions of the 2005 Attack Asthma Bill.

- Support policies allowing students with asthma to self-carry and self-administer asthma medications including asthma action plans
- Develop a model policy requiring schools to conduct yearly environmental assessments to reduce asthma triggers in the school-based setting
- Support policies which require utilization of integrated pest management (IPM) techniques to control pests in the schools[54]
- Support school-based science lab policies that reduce chemicals in the classroom
- Increase number of patients with appropriate asthma-related insurance coverage
- Ensure affordable access to quality care for all individuals with asthma
- Partner with schools to design and implement facility and grounds maintenance polices and protocols that promote a healthy school environment
- Support policy changes necessary to guarantee portability of student health records, attendance records and asthma action plans with the student when the student changes schools

Objective PA.5

Through 2010, support local asthma coalitions in policy advocacy in their local communities

Strategies

- Support training and educational materials to asthma coalitions on policy and organizational practice change at the local level

Objective PA.6

Through 2010, support policies to promote access to appropriate health care

Strategies

- Encourage health plans to include payment for asthma education
- Encourage the development of asthma registries

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54 Centers for Disease Control and Prevention.(2002). *Strategies for Addressing Asthma within a Coordinated School Health Program, With Updated Resources*. Atlanta Georgia: Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion. Available at: www.cdc.gov/HealthyYouth/asthma/pdf/strategies.pdf

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